Metacognitive interpersonal therapy in group for personality disorders

Metacognitive Interpersonal Therapy in Group for Personality Disorders: Preliminary Results from a Pilot Study in a Public Mental Health Setting

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Abstract

We conducted a pilot study to investigate the feasibility, acceptability and effectiveness of a group-psychotherapy based on Metacognitive Interpersonal Therapy (MIT–G) for patients with personality disorders (PDs). Ten outpatients with PD diagnoses were offered 16 sessions of MIT–G delivered in group format. Effect sizes were calculated for changes in symptoms, interpersonal difficulties, and metacognition baseline to treatment end. . Nine patients finished the full treatment protocol with nonsignificant large effect sizes obtained for change in depression, metacognition, impulsiveness and interpersonal problems . This is the first study suggesting that MIT-G is acceptable to outpatients across the spectrum of PDs and is associated with improvements in clinical symptoms, social functioning and metacognition. Despite the limitations of a pilot study, evidence of MIT–G effectiveness is sufficient to warrant further investigation.

Keywords: Metacognitive Interpersonal Therapy; interpersonal functioning; metacognition; personality disorder; group treatment; psychotherapy.

Introduction

There is a pressing need for treatment options for patients with the full spectrum of personality disorders (PDs) extending beyond Borderline PDs (Dimaggio, Nicolo, Semerari, & Carcione, 2013; Inchausti, Prado-Abril, Sánchez-Reales, Vilagrà-ruiz, & Fonseca-Pedrero, 2018; Simonsen et al., 2019). Patients with PDs can successfully be treated with psychotherapy (Livesley, Dimaggio & Clarkin, 2016), however there are several issues around intervention implementation. Few manualized treatments focus on treatment of PDs featuring inhibition and emotion over-regulation, usually diagnosed as avoidant, dependent, obsessive-compulsive, paranoid PD and covert narcissism (Gordon-King, Schweitzer, & Dimaggio, 2018; Popolo et al., 2018). Some PDs, particularly avoidant (Weinbrecht, Schulze, Boettcher, & Renneberg, 2016), have been historically neglected, and urgently need outcome and implementation research (e.g. targeted treatment manuals).

A second issue is cost-effective treatment delivery. Psychotherapy for PDs effective with systematic evidence that treatment protocols from 6 months to 2 years of duration deliverlong-standing improvements (Leichsenring & Rabung, 2011). However, there are difficulties in implementation of psychotherapies at scale including number of sessions required to generate meaningful change (Dimaggio et al., 2013). Public mental healthcare resources are limited, with health economic drivers pushing clinicians to deliver short, effective treatments (Kramer et al., 2014). In this vein, a pilot randomized controlled trial (RCT) of a16 session group approach yielded significant benefits in symptomatic and interpersonal functioning in individuals with over-regulated, inhibited PDs (Popolo et al., 2018) Group delivery also offers reduced costs to the healthcare system.

A third key issue is the targeting of psychotherapy around fine-grained, individualized case-formulation (Livesley et al., 2016), tailored to relevant domains of psychopathology, rather than focusing on one domain (e.g. emotion dysregulation, mentalizing or maladaptive schemas). This also holds for group therapy l, which needs to be built around an individualized case-formulation. Metacognitive Interpersonal Therapy (MIT) is a manualized treatment for PDs (Dimaggio, Montano,

Popolo, & Salvatore, 2015). It proceeds from the position that people with PDs suffer distress due to one or more dysfunctional domains: maladaptive interpersonal schemas (Bach & Bernstein, 2018; Critchfield et al., 2019), poor metacognition or mentalizing (Karterud & Bateman, 2011; Carcione et al., 2011; Lysaker et al., 2014; Semerari et al., 2014; Dimaggio & Lysaker, 2018), and maladaptive coping, including emotional regulation (Wilson, Stroud, & Durbin, 2017; Dadomo, Panzeri, Caponcello, Carmelita, & Grecucci, 2018).

Preliminary evidence suggests individual MIT may be effective in 2 (Dimaggio et al., 2017) and 1-year delivery (Gordon-King et al., 2018. Group MIT (MIT–G) has been tested in a pilot RCT and replication (Popolo et al., 2019). Therapy was well accepted by patients with low drop-out, excellent session attendance and positive outcomes in symptoms and functioning.. Initial trials of MIT–G are limited by methodological biases including delivery by the authors of the treatment protocol; application to young adults only; and exclusion of patients with prominent dysregulation (e.g. borderline PD). This has implications for the effectiveness of MIT–G for emotional dysregulation in general, given dysregulation can also emerge under conditions of significant stress within PDs otherwise considered over-regulated (Dimaggio et al., 2017).

To build evidence for a full RCT of MIT-G, the pilot study investigated (i) feasibility of the original protocol in public mental health settings outside the country of origin, (ii) acceptability and treatment fidelity; and (iii) intervention effect sizes for PD relevant symptoms and problems. Primary outcomes were interpersonal functioning and metacognition (core features of personality pathology). Secondary outcomes were distress, depression and impulsivity (a behavioral proxy for self-reflection and self-control). We hypothesized MIT–G would be acceptable to patients, associated with improved interpersonal functioning and metacognition; and with reduced distress, depression and impulsivity.

Methods

Participants

Ten participants with PDs diagnoses (n=7 female) were recruited from a public outpatient mental health service in Navarra, Spain. Diagnosese were made by trained Psychiatrists or Clinical

Psychologists using the Structured Clinical Interview for DSM–IV Personality Disorders (SCID–II) (First et al., 1995). Participants were aged 18-65 and receiving routine treatment. Exclusion criteria were: non-Spanish-speaking; full or sub-threshold antisocial PD; significant substance use (drinking or engaging in drug use to the point of intoxication, ≥ 3x per week); high suicide risk (defined as presence of a current plan and/or intent to commit suicide), severe depression, bipolar disorder, and/or schizophrenia spectrum psychosis; impaired intellectual functioning (Wechsler Adult Intelligence Scale–IV Full-Scale IQ scores < 70); major neurological illness; and lack of capacity to consent to research. Participants also had to have case manager reported interpersonal or social problems (e.g., difficulties with relatives, friends or co-workers, sustaining intimate bonds or feeling excluded from groups). Case managers of eligible patients were consulted regarding suitability of potential participants for inclusion in the study. Suitable patients were invited to participate in group treatment. The sample mean age was 31.40 years (*SD*=13.20; range 22-54), with a median level of secondary education, and average estimated premorbid IQ of 96.70 (*SD*=7.41). Diagnoses (allowing for multiple diagnoses) were: n=5 Dependent PD, n=3 mixed PDs (borderline, narcissistic, histrionic and/or avoidant dysfunctional traits), and n=2 Borderline PD. All participants were in the same treatment group and received no incentive for participation. A group of 10 participants was considered consistent with the likely number of patients per group treated in public mental healthcare contexts.

Therapists, training, and treatment fidelity

The group was led by a Clinical Psychologist with > 4 years' experience in metacognitive-oriented group therapies, alongside a co-therapist who was a resident in training in clinical psychology. Before starting MIT–G, both therapists completed a 6-hr training program with material provided by the original protocol authors. To address fidelity and protocol adherence, session transcripts were randomly selected and scored by independent assessors using the QUT–MIT Fidelity Scale (Gordon-King et al., 2018). Therapy sessions were reviewed, and each competency rated from 1 – 5 (1=no evidence of competency, 3=evidence of satisfactory competency, 5=evidence of very strong competency). Item scores were averaged to produce a final score. Therapists received weekly

supervision by an external clinical psychologist highly experienced in metacognitive-oriented psychotherapies. Supervision covered therapeutic processes, supported by the QUT–MIT Scale.

Treatment

MIT–G is a third-wave cognitive-behavioral therapy integrating elements of psychodynamic, mentalization and narrative-based approaches (Dimaggio et al., 2015). Primary goals of MIT are to promote, better social functioning and symptom relief. Mechanisms of change are improvements in metacognition and change in dominant maladaptive interpersonal schemas. Patients are guided to revise maladaptive constructions of self and others, developing richer, more flexible perspectives on themselves and others which whom they interact with. Interpersonal episodes form the foundation of group session content. In line with other metacognitively oriented psychotherapies (Inchausti, García-Poveda, et al., 2018; Ottavi et al., 2014), patients are encouraged to consider psychological links, e.g. between external triggers, thoughts, feelings, and behaviors. These procedures are designed to facilitate metacognitive skill growth, increasing the patient's awareness of their emotions and internal reaction chains. Interpersonal episodes are used to develop a joint formulation of maladaptive interpersonal schemas forming the basis for between session exercises, designed to interrupt schema-driven cycles (Dimaggio et al., 2015). Manualized versions of MIT and MIT–G initially focused on PDs patients presenting with emotional over-regulation and inhibition, with procedures for treating patients with emotional dysregulation subsequently incorporated into the current protocol (Salvatore et al., 2016). Prior to the start MIT–G, therapists explore typical triggers for patients' dysregulated affects and behaviors via individual sessions. Of note, in this and recent studies MIT-G was delivered as a stand-alone treatment together with 3 individual sessions, but it may interact with individual longer-term MIT, given sufficient resources.

Once patient and therapist form an initial shared understanding of triggers, a therapy contract was informally drafted, including strategies to manage dysregulated affect (Bohus et al., 2000). For instance, therapist and patient contract for the latter to abstain from risky behaviors (e.g. drug abuse or

reckless driving) and from therapy-interfering behaviors, such as missing sessions during periods in which the patient feels out of control. A series of affect-modulating coping strategies were then identified, such as physical exercise, calling a friend, or watching a movie, aimed at diverting attention from emotion-eliciting stimuli. Mindfulness techniques, such as mindful breathing and noticing thoughts and letting them go, were also included both in the previous individual sessions and in the group. Finally, pharmacotherapy was used for prominent, treatment resistant emotional dysregulation.

Treatment with MIT–G involved 16 weekly group-sessions, each of approximately 120 minutes, augmented by at least 3 individual sessions lasting 45-60 min: one session, or more, before beginning the group, one session in the middle of group therapy, and a last session after completion of the program. The Pre-group individual session was designed to (i) establish an optimal therapeutic alliance with the group conductors (Combs, Drake, & Basso, 2014), (ii) to evaluate and enhance motivation to change, (iii) to collect assessment material to inform the draft formulation of the maladaptive interpersonal schemas dominant in each case (Dimaggio et al., 2015), and (iv) to improve affect-modulating strategies, especially in patients with severe emotional and behavioral dysregulation. In general, the middle session enabled discussion of problematic issues in the group and if required, repair of alliance ruptures. The last session addressed how the patient experienced the group, summarized problems identified and strategies learned, consider the groups utility in informing everyday functioning, and identified remaining treatment goals. It also included a reformulation letter to sustain and promote further changes (Dimaggio et al., 2015).

Group sessions were divided into blocks of 2 or 3 sessions for each specific motivational system. During the first session of each block, each motivational system was described in simple language. Then, a series of video clips were presented, taken from movies or cartoons, demonstrating situations where actors' behavior was driven by the specific motive. This scaffolded the therapists' description of typical triggers, shut offs, and typical human experiences of each motivational drive. Systems were presented in the following order: (1) social rank/competition, (2) group

inclusion/affiliation, (3) attachment, (4) caregiving, (5) exploration, (6) sexuality, and (7) cooperation. After psychoeducation, therapists asked participants to write down a specific autobiographical memory where their actions were driven by that system. Therapists then selected one situation to be role-played. Across the program, all participants had to role-play at least one episode from their own life. The scene enacted was then replayed with the participant taking the part of the other. In the ensuing group discussion, the protagonist and all the group members were asked to reason about what kind of mental states the participants might have experienced and identify the verbal and nonverbal cues guiding this position. In the second session concerning the same motive, participants were asked to attempt a problem-solving strategy during the role-play, on the basis of the mental states that they are experiencing and of the ones they ascribe to the others. In metacognitive terms, therefore, the second session (and the third in the case of cooperative system), focused on mastery, that is the capacity to use information about mental states in order to reach own goals, solve conflicts, and find and promote more fulfilling and cooperative relationships. During the 16th session, participants shared their experience of the program and reviewed change processes, including possible benefits and the impact of the group. They also discussed continuing problems and any issues arising concerning the program.

Measures

The *Inventory of Interpersonal Problems, Spanish version* (IIP–64) (Alden, Wiggins, & Pincus, 1990; Salazar, Marti, Soriano, Beltran, & Adam, 2010)) is a 64 item, 8 subscale self-report inventory assessing interpersonal problems. In this study, Cronbach's alpha coefficients were 0.86 at pre-test and 0.84 at post-test. The *Metacognition Assessment Scale–Abbreviated* (MAS–A) (Inchausti, Ortuño-Sierra, Garcia-Poveda, & Ballesteros-Prados, 2016; Lysaker et al., 2005; Semerari et al., 2003) is a rating scale assessing different forms of metacognitive activity within personal narratives. It contains four subscales: 'Self-reflectivity'; 'Understanding the Other's Mind'; 'Decentration' which evaluates the ability to perceive the world as existing with others having independent motives; and 'Mastery' assesses the ability to use mental state knowledge for purposeful problem solving. The MAS–A total

score ranges from 0 to 28. Higher scores indicate better functioning. The *Indiana Psychiatric Illness Interview* (IPII) (Lysaker, Clements, Plascak-Hallberg, Knipscheer, & Wright, 2002) was developed with the goal of eliciting the life story and illness history of the patient. The MAS–A was scored from IPII transcripts. In the current study, inter-rater reliabilities for MAS–A scores were 0.92 at pre-test and 0.91 at post-test. The *Symptom Checklist-90–Revised* (SCL–90–R), Spanish translation (Derogatis, 1992; Aluja, Blanch, Blanco, Marti-Guiu, & Balada, 2015) has 90 items, (graded 0–4), assessing psychopathological symptoms over the past week. Due to the sample size, only the Global Severity Index (GSI) was evaluated, with validity of α=0.85 at pre-test and 0.83 at post-test. The *Beck Depression Inventory–II* (BDI–II) (Beck, Steer, & Brown, 1996) is a 21-item multiple-choice questionnaire assessing depression symptoms in the last 14 days, scored 0-63. Validity was α=0.31 at pre-test and 0.81 at post-test. The *Barratt Impulsiveness Scale–11* (BIS–11) (Patton, Stanford, & Barratt, 1995) is a self-report measure of impulsivity across three subscales: motor impulsiveness, attentional impulsiveness, and non-planning impulsiveness (α=0.81 at pre-test and 0.83 at post-test.

Statistical analyses

Statistical analyses were performed using SAS (SAS Institute Inc., Cary, NC, USA). Using guidelines for pilot studies (Arain, Campbell, Cooper, & Lancaster (2010), data gathering was performed mainly to test gain clinical impressions of the methodology. As such, only effect size calculations (Cohen's *d*) were performed on the outcome measures.

Results

----------Insert table 1 about here----------

Two independent raters assessed therapist adherence to model using the QUT–MIT Fidelity Scale. Total scores ranged from 3.80 to 4.60 (*M*=4.00; *SD*=0.35). Pearson's correlation demonstrated significant positive correlations between raters scoring (r = 0.82). For primary outcomes (Table 1), non-statistically significant medium effect sizes were found for change on IIP–64 total score (d=0.73). For MAS–A scores, non-statistically significant but large effect sizes were obtained for self-

reflectivity (*d*=–1.27), and understanding others' minds (*d*=–1.14), with medium effect sizes for mastery (*d*=–0.77) and decentration (*d*=–0.43). For secondary outcomes, non-statistically significant medium effect sizes were obtained for SCL–90–R GSI scores (*d*=0.67). The following (non-statistically significant) effect sizes were obtained on BIS–11 scores: attention, 0.30; motor, 1.26; and non-planning, 0.42. For BDI–II, a non-statistically significant, but large (1.43) effect size was found. Incorporating pre-test data from the one drop-out did not alter the magnitude of the effect sizes.

Discussion

This pilot study primarily sought to examine the feasibility and acceptability of MIT–G in a public mental healthcare setting for patients with the whole range of PDs. A further aim was to estimate the effectiveness of MIT-G on relevant symptoms for PDs, interpersonal functioning, as measured by magnitude of clinical gains and in the hypothetical change mechanism of metacognition. MIT–G demonstrated feasibility and acceptability via concordance with the core components of the original protocol. Therapists also noted that active participation in fortnightly supervision was essential for successful application of MIT–G.

The acceptability and subjective impact of MIT–G was adequate with only 1 drop-out (a young female with high levels of emotional dysregulation and severe socioeconomic family problems). The sample was representative of a large age range of patients, with a broader range of PDs, extending the scope of previous trials directed at young adults (Popolo et al. 2018; 2019) . Our findings also provide estimates of magnitude of change at post-treatment for key outcomes.

Of particular importance, MIT-G was applied outside the country of origin, delivered by clinicians' independent of its' developers. Based on these results, acknowledging lack of power, MIT–G was associated with large gains in depression, self-reflexivity, understanding of the other's mind and mastery, behavioral impulsivity and interpersonal functioning. These results are consistent with previous trials (Popolo et al., 2018, 2019) and also estimate change in interpersonal problems.

The theoretical framework for MIT–G suggests that changes in functioning would be in part attributable in part to gains in awareness of mental states and the capacity to use it in order to deal with

social problems (Semerari et al., 2003). Thus, metacognition would be the mechanism of change underlying improvements in impulsivity, social adjustment and capacity to deal with emotional distress. This was supported by our findings that MIT–G was associated with patient's improved awareness of their own mental states and their capacity to take a critical stance towards their understanding of social interactions, questioning maladaptive assumptions (e.g. others are going to criticize or reject them). Participants were better able to grasp that the perspective of others differs from their own. This supports evidence (Dimaggio et al., 2008; Popolo et al., 2019) that developing a richer understanding of one's own mind is necessary for increasing one's capacity to understand others mental states. Participants may also have used the perspective of others in the group to first gain a richer understanding of their own wishes, preferences, and problems; thereafter questioning their rigid beliefs about self and others. Further. although emotional regulation was not directly assessed, improvements in self-reflectivity, mastery, and behavioral impulsivity point indirectly towards increased capacity for emotional and behavioral self-control.

Participant's capacity to use intersubjective information to enact purposeful problem-solving in the group grew through therapy, consistent with RCT and non-controlled studies demonstrating developments in metacognition are consistent with effective therapy for PDs (Dimaggio et al., 2009; Popolo et al., 2019). Our results also mirror gains in metacognition observed in patients with borderline PD in psychotherapy and in metacognitive-oriented therapies for psychosis (Maillard et al., 2017; de Jong et al., 2018; Inchausti, García-Poveda, et al., 2018).

There are limitations to our study. Most notably, the sample size is insufficient and no control group was used. Females were over-represented**.** Only some PDs were present in the sample, which limits generalization to the full breadth of PDs. Additional relevant outcomes such as social and occupational functioning or emotion regulation were not measured. Finally, results from further trial are required to better understand whether changes in metacognition translate readily into improved daily functioning, clinical symptoms and outcomes in general. That said, results from this pilot study extended findings from previous studies, and are promising: feasibility, acceptance and methodology

of the therapy protocol seem adequate. This feasibility study, is the first to suggest that outpatients with over- and/or dys-regulated PD will accept MIT–G, and shows evidence of improvements in mood, impulsivity, social functioning and metacognition. With replication, MIT–G could be an effective, cost-effective, well-accepted intervention for the spectrum of PDs.

Compliance with Ethical Standards

The authors have no competing interests. The Clinical Research Ethics Committee of Rioja Salud approved the study and protocol. All patients gave informed consent.

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